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### REMARKS

Entry of this Request for Reconsideration is proper because it does not raise any new issues requiring further search by the Examiner, narrows the issues on appeal, and is believed to place the present application in condition for immediate allowance.

Claims 1-28 and 35-39 are all the claims presently pending in the application. No claim amendments have been made.

Claims 1-28, 38, and 39 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Kagami, et al. (Japanese Patent No. 2000-347043; hereinafter "Kagami - JP").

Also, claims 1-28, 38, and 39 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,703,188 to Kagami (hereinafter "Kagami '188", which matured from U.S. Application No. 09/534,458).

Claims 1-28, 38, and 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kagami - JP in view of Kawabata, et al. (U.S. Patent No. 5,665,494; hereinafter "Kawabata"), or alternatively, over Kagami '188 in view of Kawabata.

Claims 35-37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 08-320422, in view of Anderson '702 and Kagami - JP.

Claims 1-28, 38, and 39 allegedly conflict with claims 1-8 and 11 of Kagami '188 under 37 C.F.R. § 1.78(b).

Claims 1-28, 38, and 39 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 and 11 of Kagami '188 in view of Houlihan, et al. (U.S. Patent No. 6,204,304; hereinafter "Houlihan") and Kawabata.

Applicants traverse each of the rejections as follows.

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## I. THE CLAIMED INVENTION

Applicants' invention is directed to a method for manufacturing an optical transmission device which includes mixing a first photosetting resin comprising a first photopolymerization initiator and a first monomer or oligomer to be polymerized in a first polymerization type by the first photopolymerization initiator, and a second photosetting resin comprising a second photopolymerization initiator and a second monomer or oligomer to be polymerized in a second polymerization type that is different from the first polymerization type by the second photopolymerization initiator.

The method also includes forming a core portion of the optical transmission device by hardening the first photosetting resin by making a first irradiation that activates the first photopolymerization initiator but does not activate the second photopolymerization initiator; and forming a clad portion of the optical transmission device by hardening both the first photosetting resin and the second photosetting resin by making a second irradiation that activates both the first and second photopolymerization initiators.

In one exemplary aspect of the present invention, as defined, for example, by independent claim 1, the first irradiation has a wavelength shorter than the longest wavelength required to activate the first photopolymerization and longer than the longest wavelength required to activate the second photopolymerization. In addition, one of the first polymerization type and the second polymerization type includes radical polymerization, and the other includes cationic polymerization.

This aspect of the method further includes detecting a quantity of output light output to the outside of the transmission and reception module via the optical fiber among the light beam of predetermined wavelength for communication that is output, adjusting a

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light input/output axis direction of the optical fiber such that the quantity of output light is substantially at maximum; and entering the light beam of predetermined wavelength for formation of the optical transmission device from the other end of the optical fiber into the optical transmission and reception module, while maintaining the adjusted light input/output axis direction of the optical fiber.

Unlike conventional methods, Applicants' invention includes a method of manufacturing an optical transmission device in which one of the first polymerization type and the second polymerization type includes radical polymerization, and the other includes cationic polymerization (as recited in claim 1), or in which the first irradiation has an amount of exposure more than the minimum amount of exposure required to harden the first photosetting resin substantially completely and smaller than the maximum amount of exposure not to harden the second photosetting resin completely (as recited in claim 15). In addition, Applicants' invention includes a method of forming an optical transmission device within an optical transmission and reception module, the method including introducing a light beam of a predetermined wavelength for formation of the optical transmission device into a space area for forming the optical transmission device within the optical transmission and reception module to harden a photosetting resin solution in an optical axis direction.

These novel features of the invention allow it to fabricate a cylindrical core portion of an optical transmission device more effectively and efficiently than conventional methods (e.g., see specification at page 2, lines 1-7).

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## II. THE PRIOR ART REJECTIONS

Applicants incorporate herein by reference all of the traversal positions set forth in the Amendment under 37 C.F.R. § 1.111 filed on January 28, 2005, as well as those in all previous Amendments submitted by Applicants.

A. Claims 1-28, 38, and 39 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Kagami, et al. (Japanese Patent No. 2000-347043; hereinafter "Kagami - JP"). Also, claims 1-28, 38, and 39 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Application No. 09/534,458 (now U.S. Patent No. 6,703,188 to Kagami; hereinafter "Kagami '188"). For the following reasons, Applicants respectfully reiterate their traversal of this rejection.

The Examiner does not appear to dispute Applicants' assertion that neither Kagami - JP nor Kagami '188 specifically disclose (or for that matter suggest) that the acrylic monomers undergo free radical polymerization and the epoxy monomers undergo cationic polymerization. That is, Kagami does not specifically disclose different polymerization mechanisms between the first polymerization type and the second polymerization type.

However, the Examiner takes the position that Kagami - JP and Kagami '188 inherently (i.e., necessarily) disclose this feature.

First, in the present Office Action, the Examiner states that "*the Applicant is arguing that the epoxies disclosed are not cationically cured. To rebut this position the examiner has pointed to (sic) both the Kawabata et al. and the applicant's own specification to address the issue of this being inherent. The position of the Examiner*

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*being that it is somewhat untenable for the applicant to adopt a position divergent from their own specification” (see Office Action at page 4, lines 16-21).*

That is, the Examiner appears to be asserting that Applicants’ own disclosure and the Kawabata reference support the Examiner’s position that it would be inherent in Kagami - JP and/or Kagami ‘188 that the acrylic monomers undergo free radical polymerization and that the epoxy monomers undergo cationic polymerization.

Second, the Examiner further explains his position, stating that:

*Clearly as the (sic) acrylic monomer (A) is disclosed as having a higher sensitivity than the epoxy (B) monomer in figure 2 and wavelength 1 is shown to be shorter than the longest wavelength able to cure monomer A, but longer than that able to cure monomer B, the separate curing precludes them from curing by the same mechanism. The citation of Kawabata et al. is presented (sic) to evidence that the epoxies inherently photocure cationically and to thereby support the position that the separate photocuring is by a cationic polymerization mechanism as this is known in the art.*

(see Office Action at page 5, lines 5-12; emphasis added).

That is, the Examiner appears to assert that the spectral sensitivity diagram of a mixture solution, which is illustrated in Figure 2 of Kagami ‘188, necessarily would require the acrylic monomer (A) and the epoxy monomer (B) to be cured by different mechanisms (i.e., allegedly the acrylic monomers necessarily would undergo free radical polymerization and the epoxy monomers necessarily would undergo cationic polymerization).

The Examiner further states that “*the examiner is not aware of anionic photopolymerization of epoxies being used within the optical waveguide arts*” (see Office Action at page 5, lines 15-17).

Applicants’ respectfully disagree with the Examiner’s position for at least the following reasons.

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Contrary to the Examiner's position, Applicants respectfully submit that the Kagami '188 reference and the Kagami - JP reference do not inherently (i.e., do not necessarily) disclose that the acrylic monomers undergo free radical polymerization and the epoxy monomers undergo cationic polymerization.

That is, Kagami does not specifically disclose (or for that matter suggest) different polymerization mechanisms between the first polymerization type and the second polymerization type.

In other words, Kagami clearly does not disclose or suggest the specific polymerization type of the materials used from among the various types of polymerization types that could be used.

Instead, Kagami merely teaches an example using an epoxy high refractive index solution and an acrylic low refractive index resin solution.

In Kagami, the epoxy resin solution is not necessarily polymerized by cationic polymerization, and the acrylic resin solution is not necessarily polymerized by radical polymerization. Indeed, Applicants submit that cationic polymerization is not the only, or necessary, polymerization mechanism that can be used in Kagami.

Thus, Applicants reiterate that, as a matter of law, if the reference is silent on the issue, then all that is required is that another possibility exists, not that such a possibility would (or would not) be the preferable choice.

Clearly, as argued by Applicants and as acknowledged by the Examiner, it is possible to polymerize epoxies through other mechanisms.

Thus, absent a specific disclosure in the Kagami reference that the epoxy monomers described in Kagami must undergo cationic polymerization, as a matter of law,

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Kagami clearly cannot be said to necessarily disclose (either inherently or explicitly) that such is the case.

Indeed, as mentioned above, the ordinarily skilled artisan would know and understand that cationic polymerization is not the only, or necessary, polymerization mechanism that can be used in Kagami.

Therefore, Applicants reiterate that Kagami does not disclose or suggest (either inherently or explicitly) all of the features of the claimed invention.

Moreover, Applicants submit that “acrylic” material and “epoxy” material referred to in Kagami do not necessarily mean “acrylic resin” or “epoxy resin”.

For example, as for “acrylic” material, there are generally known epoxidized acrylic resin, and acrylic epoxy resin.

Applicants submit that a person of ordinary skill in the art clearly would not know and/or directly understand from the teachings of Kagami that the respective solutions disclosed by Kagami are polymerized by cationic polymerization and radical polymerization, according to the claimed invention.

Indeed, contrary to the Examiner’s position, such only could be derived after reading Applicants own disclosure. That is, only the present invention discloses the features of the claimed invention. Kagami clearly does not disclose or suggest the claimed features.

Thus, as a matter of law, Applicants’ own invention clearly cannot form or support the basis of the Examiner’s rejection, or for that matter, be used to make up for the deficiencies of the cited reference.

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Moreover, Applicants submit that the traversal positions above clearly are not contrary to Applicants' disclosure. That is, Applicants clearly are not adopting a position that is divergent from their own specification, as alleged by the Examiner.

For the foregoing reasons, Applicants respectfully submit that Kagami clearly does not anticipate, or for that matter, render obvious, all of the features of the claimed invention.

B. With respect to the rejections of Claims 1-28, 38, and 39 under 35 U.S.C. § 103(a) as being unpatentable over Kagami or U.S. Application No. 09/534,458, in view of Kawabata, and Claims 35-37 under 35 U.S.C. § 103(a) as being unpatentable over JP 08-320422, in view of Anderson '702 and Kagami JP, Applicants respectfully incorporate herein by reference the traversal positions set forth in the Amendment under 37 C.F.R. § 1.111 filed on January 28, 2005.

Applicants reiterate that the claimed invention clearly is not anticipated by, or rendered obvious from, the prior art references of record, either individually or in combination.

C. Claims 1-28, 38, and 39 allegedly conflict with claims 1-8 and 11 of Kagami '188 under 37 C.F.R. § 1.78(b). On the other hand, claims 1-28, 38, and 39 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 and 11 of Kagami '188 in view of Houlihan and Kawabata.

Applicants respectfully reiterate that claims 1-28, 38, and 39 clearly do not conflict with claims 1-8 and 11 of Kagami '188, as alleged.



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For example, the claims of Kagami '188 do not disclose or suggest at least that *“one of said first polymerization type and said second polymerization type comprises radical polymerization, and the other comprises cationic polymerization”*, as defined by independent claim 1.

Applicants also reiterate that the present Application is assigned to Toyoda Gosei Co., Ltd., whereas U. S. Application No. 09/534,458 (now U.S. Patent No. 6,703,188) is assigned to Toyota Choo Kenkyusho (i.e., not Toyoda Gosei Co., Ltd.).

Thus, these applications are not “commonly assigned” as alleged by the Examiner and there is no double patenting issue in this case.

### III. CONCLUSION

In view of the foregoing, Applicants submit that claims 1-28 and 35-39, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.


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The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

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**CERTIFICATE OF TRANSMISSION**

I certify that I transmitted via facsimile to (571) 273-8300 the enclosed Request for Reconsideration under 37 C.F.R. § 1.116 to Examiner Martin J. Angebrandt, Art Unit 1756, on October 27, 2005.

  
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